The Cary Arboretum

of The New York Botanical Garden

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Impressions of the Soviet Union: From Subtropical to Subalpine.

by Lydia Newcombe

Fortified with one year of Russian language study, a dictionary, and a blank journal, with four cameras and a box of collecting supplies among us, I left on May 14th with Dr. Tom Elias of the Arboretum and Dr. Garrett Crow of the University of New Hampshire on a six-week plant collecting trip in three different areas of the European Soviet Union: the Crimea, Moldavia, and the northern Caucasus. This expedition was an official Botanical Exchange program under the authority of the USA/USSR Agreement on Cooperation in the Field of Environmental Protection, arranged through our Department of Interior and coordinated by Dr. Elias. It was his fourth trip to the USSR, Garrett's second and my first. We collected, as it turned out, more than 1600 species of plants, exposed 64 rolls of photographs, acquired many books and maps, made new friends, and accumulated Russian words, proverbs, folklore, plant names and tongue-twisters in a hastily scribbled journal. Our initial few days spent in Moscow acquainted us with the Main Botanical Gardens and its geographically-arranged living collections, including plants that we could soon expect to collect in the wild. We then boarded a crowded Aeroflot flight full of families cheerfully headed for Black Sea vacations.

When we arrived in Yalta on May 19th, the Crimea was beginning an unusually delayed spring. This was fortunate for us, as we were interested in seeing early spring flowers of species native to this region. We were also eager to find some uncommon species of oak, beech, hornbeam, maple and conifers which are endemic to the northern Black Sea area. Many endemic species have been given the name 'taurica', after the 13th century Tartar tribes that migrated here from Asia, and may be closely related to species growing in similar habitats in the Western Hemisphere. Previous lack of contact between Western and Soviet botanists has prevented our investigating such relationships. Our official purpose was to gather information on how rare and endangered species are identified and protected by the Soviet Union; this we did by visiting state nature reserves and speaking with botanists and government officials responsible for them.

The Crimea is a peninsula ('half-island' in Russian) and a part of the Ukranian Republic lying along the northern border of the Black Sea. Three mountain ridges, as high as 1545 meters in elevation, run along the southern coast, inland of which is steppe, or prairie land. The narrow strip of land between mountains and sea, which enjoys a protected Mediterranean-type climate, is both an important fruit-growing region and a favored vacation area for multitudes of Soviet and foreign tourists.

Near the coastal city of Yalta lies one of the few subtropical botanical gardens in the USSR – the State Nikita Botanical Gardens (SNBG), our host for the three weeks we spent working in the Crimea. Its director, Evgeny Molchanov, became a friend of ours last summer when he came to the Arboretum for a collecting trip through New England. Molchanov put at our disposal all the resources of his herbarium: presses and newspapers for drying the plants, tools,

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"Green Fountain," a moss-covered waterfall in a Crimean forest.

Tenth Anniversary Celebration Will Be a Day to Remember

A reunion of staff and friends, a formal time for reminiscing and looking ahead, and a celebration of ten years of progress will be combined to commemorate the Arboretum's tenth anniversary.

Scheduled for Sunday, October 18, 1981, noon to six p.m., the day's events will include formal discussion from one to three p.m. on topics including "Who was Mary Flagler Cary?" by Mrs. Helen Stanton, Arboretum Board of Trustees; "Beginnings" by former New York Botanical Garden President Dr. William Steere; "The Design of the Arboretum" by New York Botanical Garden Senior Vice-President Carlton Lees; "Ten Years of Science" by Arboretum Assistant Director Dr. Thomas Elias; and "The Future of the Cary Arboretum and the New York Botanical Garden" by Dr. James Hester, President, the New York Botanical Garden.

Exhibits, demonstrations and tours will be held throughout the Arboretum grounds and buildings beginning at noon. Those wishing to reserve seats for the formal program should do so soon after receiving their invitation, since seating is limited.

Please plan to join Arboretum Friends, staff and volunteers for this ten year celebration of progress.

transportation, a very fine taxonomist, assistants, camping gear, and permission to work in nature reserves normally off-limits to visitors.

Each morning we set off from our hotel in a microbus full of field presses, bags, diggers & chippers, a picnic lunch including 10 bottles of Pepsi, and our constant companions: Igor, our host and interpreter from Moscow's Main Botanical Garden; Vitali, the Crimea's senior taxonomist; Olga, the SNBG's English teacher who travelled with us to practice her English; and sometimes one or two more botanists. The most desirable collecting locations from our point of view were accessed only by the most arduous road conditions, which frequently proved the undoing of our tourist buses.

Paeonia tenuifolia, a rare wild peony found on Crimean mountaintops.

The natural landscape features of the southern Crimea are ruggedly awesome and bear suitably colorful names, often quite sonorous in Russian. We were privileged to climb the 'Devil's Staircase', on which we found not the Devil but an exquisite rare peony and two whip-carrying forest rangers; the 'Valley of Ghosts', amidst columnar rock formations known locally as Giant, Sphinx, and Katherine II; 'Bald Ivan', on which grew a single, wild, red tulip; and Ayadag, a small coastal mountain in the form of a bear bending down to drink from the sea. We worked on several above-treeline mountain meadows called 'yailas', where snow may persist throughout the summer. Here we discovered plants in the flowering stage which we had missed at the lower elevations, and found ourselves in a dense, rapidly-moving fog that alternately revealed and obscured the vegetation. Here also was a curious population of violets – one side purple, the other yellow, and in between, varicolored combinations produced by genetic crossing.

Scattered through the Crimean mountains are a number of ancient monasteries, each a community of caves carved into chalk cliffs or limestone outcrops and occupied from the 13th to the 17th centuries. One such site, called Chufut-Kale, has still-intact murals painted on the cliffside that identify it as Christian, while many were occupied at some time by Asian invaders. Graffiti is common in these caves but real vandalism does not occur. Our explorations in and around four cave sites found many plants that characteristically grow in limestone-rich soils, including some rare orchids.

In the field, we preserved our collections by pressing them between sheets of newsprint and cardboard. After our return to the SNBG's herbarium each day, the specimens were identified by Vitali, repacked in dry newspapers and wooden presses (a beautifully bound series of 1947 Pravdas was kept for this purpose) and set outdoors to dry. My greatest challenge, as keeper of the collections record book, was taking dictation in Latin pronounced with a thick Russian accent, which obscured many plant names I knew perfectly well. We soon became aware of a botanical custom peculiar to the USSR, as far as I know. Each plant is known to Soviet botanists not only by its Latin name, but by its common name, a literal translation of the Latin into Russian. These names are sometimes used in place of the Latin in their publications.

Among our most endearing memories of the Crimea will be the sound of the forest cuckoo, to whom the Russians like to call, "Kukushka, kukushka, how many years have I left to live?" and listen for her reply; a four-day camping trip with borshch for every meal, the ingredients purchased at a busy farmers' market, and campfire discussions through an interpreter; a lovely forest waterfall completely carpeted in green moss; and a visit to a private art collection of some 200 paintings by Russian artists covering the wall surface of an entire apartment.

After completing our work in the Crimea we flew to Kishinev, capital of the small republic of Moldavia which lies along the European border of the USSR. Moldavia, extensively cultivated with grapes, is the least botanically diverse of the three regions we visited. We worked in oak forests in the only remaining area of natural vegetation and visited the young Botanical Gardens of the Moldavian Academy of Sciences. Horticulturists here seem to be fond of exotic growth forms and formal gardening. In the Gardens we saw plantings of grafted hybrids in weeping or skirted forms, destined for introduction into Kishinev; in the Exhibition of Economic Achievements, displays of espaliered apple trees and traditional folk gardens.

Among the rolling hills of central Moldavia, we passed villages of wooden houses, each crowded in by shade trees, grape arbors, vegetables, and roses at the garden gate, the entire village encircled by green picket fencing. Between villages lie thousands of acres of neatly trained and trellised, state-owned grapevines. Strips of tall grass along the highway are either grazed by herded livestock, or mowed with scythes and pitched into trucks by villagers.

Our last two weeks were spent along the Black Sea coast of the northwestern Caucasus region, the warmest and most humid part of the USSR. We were interested in several once-widespread conifers that now grow only in limited coastal zones, and in summer alpine flora of the higher snow-capped peaks. Our home base was the resort city of Sochi, which stretches along 60 miles of coastline. Here the Forest Service maintains an active dendropark in which are displayed trees and shrubs grown from seed received in exchange with botanical gardens all over the world. The most attractive and adaptable of these are planted out around Sochi's parks, streets and apartments, and are maintained with loving care by the dendropark staff. Residents are not encouraged to do their own gardening, or else the result, we were told, would be chaotic. Sochi is consequently a very ornamental and botanically cosmopolitan city. The only sign of public expression is graffiti carved into the dendropark's bamboo shoots.

Although the coastal climate was relentlessly hot and sunny, weather in the mountains was tempestuous. It was too easy for us, while searching an upland meadow for new flowers, to ignore the daily thunderheads rolling in at mid-afternoon. On the last day of collecting, Garrett and I found ourselves racing a herd of goats, who had spent the day eating the plants we were looking for, down a steep mountainside in a hailing thunderstorm. We jumped into our expedition jeep and crawled down the mountain through rivers of snow-melt churning over the road and around herds of cows, goats, and horses being driven up to their summer pastures – the nature preserves of the Caucasus. So ended this year's botanical collecting in the Soviet Union.

During our last two days in Moscow we prepared specimens for shipping, visited some shops, and met with all the Moscow scientists involved in the program to discuss the future of the Botanical Exchange. By the time this article is published, three Soviet botanists, two from Moscow and one from Central Asia, will have arrived in the US and will be working in our national parks in the southwest.

Photos by Dr. Thomas Elias

At the State Nikita Botanical Gardens – Tom Elias, Lydia Newcombe, and Garrett Crow with friends.

Book Reviews

by Betsy Calvin, Librarian

Wolf, Ray (ed). *Solar Food Dryer Preserves Food for Year-Round Use, Using Solar Energy.* Emmaus, Pa.: Rodale Press, 1981

Ways of preserving garden produce are numerous but drying is the least time consuming and most space productive preservation method. This book contains the complete plans and instructions for building your own solar-heated food dryer with a back-up electric heat source and fan. The instructions are well illustrated. Recipes and uses for dried foods are included. The approximate cost of materials is estimated at between $125-$150, depending on what materials are on hand. This book is available on loan from the Circulating Collection in the library.

Raymond, Dick and Jan. *The Gardens for All Book of Tomatoes.* Burlington, Vt.: Gardens for All, 1978.

This is by far the best little book on tomato growing that one can own. Topics covered thoroughly include pruning, staking, transplanting, mulching, varieties, pests, diseases, preserving and even recipes. Tomato lovers will learn some new things about their favorite vegetable or refresh themselves with some information on their cultivation. This book is available for loan in the library.

Campbell, Stu. *Build Your Own Solar Water Heater.* Charlotte, Vt.: Garden Way, 1981

This is a good guide to use for homeowners who are considering either purchasing or constructing a solar hot water unit. The instructions are clear, easy to follow, and there are numerous illustrations. The author has included appendices with glazing, pipe insulation, absorber plate, heat transfer, storage tank and plate collector manufacturers. This book is available for loan in the library or for purchase at the Gift Shop.

The Cary Arboretum library has books on topics from bird watching to growing roses; from mulching to root cellaring. Open weekdays, 8:30 a.m. to 4:30 p.m. (closed for an hour at lunch), the library is located on the first floor of the Arboretum's solar heated Plant Science Building. Come visit and expand your knowledge of the environment!

YCC Gets Job Done at Cary

High school students participating in the Dutchess County YCC (Youth Conservation Corps) this summer had a taste of what an Arboretum is all about – and proved they can get a job done and have fun doing it.

Working with members of the horticulture department under the direction of Arboretum Ground Foreman John Bouton, 17 YCC members constructed hundreds of feet of paths in the rhododendron dell located near the Plant Science Building. The youths were also responsible for the construction of a small observation deck for the area, stairs going into the dell, and a large viewing deck in the dell which will accommodate groups of up to 100 visitors.

Graduate student Randy Fitzgerald uncovers a vole nest for YCC students to study.

The rhododendron dell, which is the result of generous contributions by the Garden Club of Orange and Dutchess Counties, will act as a "drawing card to the Arboretum when completed," reports Arboretum Horticulturist Bob Hebb. "But beyond its beauty, the dell will display the best rhododendron as a landscape plant, and will

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Shop Talk

by Sandra Reilly, Plant Shop Manager

Late summer brings with it the message to take house plants indoors in preparation for cooler weather. Examine these plants thoroughly for insect pests, and spray with insecticide if necessary. Since many plants experience a "spurt of growth" during a summer outdoors, repotting may be mandatory at this time.

It is important that plants are transferred from outdoors before the heat goes on indoors. This will give them an opportunity to adjust to the decreased humidity and light in the home. Don't be alarmed if some leaves drop – this is usually a reaction to a change in conditions.

After moving these plants indoors, you may see a need for something new and different. In preparation of our annual Fall-for-All festival scheduled for Sunday, October 4, the plant shop will feature a wide array of begonias, African violets, ferns, cactus, and much more.

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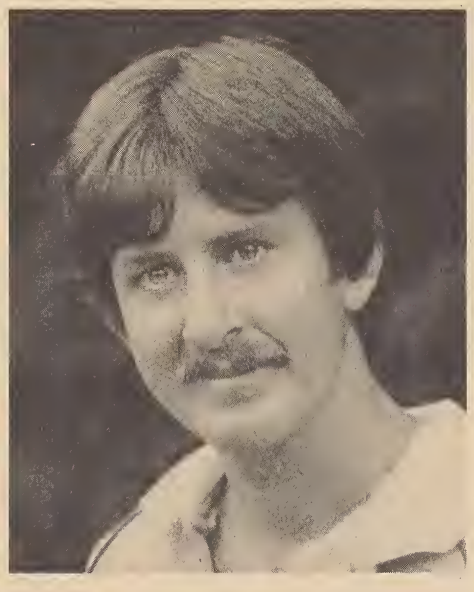
People at the Arboretum



Bob Mickler, Research Assistant . . .
Science, art and sports play important roles in Bob's life, all of which he takes seriously and pursues actively.

A graduate of Cornell University, Bob entered as a pre-veterinarian student and soon realized that his true interest was in plant pathology. Upon receiving a degree in biology, he joined the Cary staff in 1977 to work with forest Geneticist Dr. David Karnosky – a position he describes as a valuable union of genetics and pathology. Together, the two are involved in several projects, including crossing the disease-sensitive American elm with others resistant to Dutch elm disease.

During his free time, Bob, who is the oldest in a family of seven children, has four rotating house sitting jobs throughout Dutchess County. His "roots" are in Red Hook, however, where he maintains a collection of 60 varieties of day lilies. He also has a small orchid collection, and enjoys such sports as squash, racketball and skiing.

Experimenting with photographic techniques serves as a bridge between science and art as Bob has studied formally and independently to find a unique process which will render interesting photographic images.

"My work at the Arboretum is diversified," says Bob. "I am just realizing the potential of genetic variations within one species of tree. Such variations can be responsible for anything from change in form to tolerances to air pollution. This I find truly exciting."

Shop Talk

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During the Fall-for-All festival, the Arboretum's gift shop will offer a 10% discount on all gift items with a 20% discount for "Friends of the Arboretum" (10% discount on all book purchases). Both the gift and plant shops are located in the Gifford House Education and Visitor Center, Route 44A (Sharon Turnpike). Open Tuesday through Friday, 11:00 a.m. to 4:30 p.m. and weekends, 1:30 to 4:30 p.m. Plan to stop in and begin your Christmas shopping early for unusual gifts, soaps, kitchen items, cards, gardening tools, and much more.

Order bird seed through the gift shop by October 16th for delivery on October 31.

HELP!!

Volunteer "shop sitters" are needed in The Cary Arboretum gift shop. Anyone interested in donating a few hours a week to meet and act as cashier for shop customers, please contact Mrs. Marcia Davis, (914) 677-5358.

Ethnobotany Program Brings Students Together

Archaeological digs, studies of regional climates and plants, and discussion and research on American Indians were just some of the topics touched upon by twenty five top-notch high school students sharing a common interest in ethnobotany.

The students were chosen from across the country to participate in this six-week program directed by Arboretum Education Coordinator Dr. Peter Dykeman. Ethnobotany, described as the study of man's involvement with plants throughout history, involved the students in studies of herbarium techniques, flint, napping, palynology and cultural interactions and distinctions among native American groups.

Funded by the National Science Foundation, the program served as one of the country's only classroom and in-field projects devoted exclusively to ethnobotany.

Fall-For-All on Tap

The fourth annual Fall-for-All festival, an outdoor celebration of Autumn, is set for Sunday, October 4, noon to five p.m.

Held on the grounds of the Gifford House Education and Visitor Center, Route 44A, Millbrook, this year's Fall-for-All will include a firewood raffle, cider pressing, pumpkin carving, and demonstrations in birding, wild foods and much more.

Admission for the event is $2.00 for adults and $1.00 for children and senior citizens. Members of the Arboretum purchasing one admission ticket receive one free. A raindate is scheduled for October 11.

YCC Gets Job Done at Cary

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be a teaching tool for gardeners wishing to learn of the history and breeding of improved varieties."

Also a result of YCC labor was the construction of parking areas throughout the Arboretum grounds under the supervision of wildlife personnel Mike Fargione and Ray Winchcombe. A separate group of eight students prepared the areas designed to be used by permit by visitors, fishermen, hunters and by Arboretum staff and volunteers.

Vole and woodchuck population studies were also part of this small group's activities. According to Wildlife Biologist Jay McAninch, the students collected information on vole and woodchuck damage occurring on the Arboretum grounds, and investigated different methods of controlling them.

The eight weeks at Cary were not exclusively devoted to work, however. Scheduled slide shows, field trips and demonstrations by Arboretum staff and local environmentalists provided the youths with information and hands-on experience involving ecology, botany, horticulture, wildlife and alternative energy.

Around the Arboretum

An exhibit of paintings and drawings by noted artist Ben Dienes will be on display September 13 through November 1 in the Arboretum's Plant Science Building, Route 44A.

Known as an authorative painter of abstract expressionism, Mr. Dienes has exhibited extensively throughout Italy. A resident of New York City, his work has also appeared in group and one-man shows at the Museum of Modern Art, The Artists Gallery, and Park West International Galleries in New York.

A gallery reception will be held on September 13, 1:30 to 3:30 p.m. in the Plant Science Building.

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of
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